Tamkang University Academic Year 113, 2nd Semester Course Syllabus

Course Title	STRUCTURAL ENGINEERING ON WIND EFFECTS	Instructor	CHIEH-HSUN WU			
Course Class	TECXM1A MASTER'S PROGRAM, DEPARTMENT OF CIVIL ENGINEERING, 1A	Details	 General Course Selective One Semester 2 Credits 			
SDG4 Quality education Relevance to SDGs						
Departmental Aim of Education						
 I. Develop students' ability and knowledge of civil engineering to meet the requirements of employability and further education. II. Equip students with the ability to integrate engineering profession and information 						
techno III. Enable concep	technology to strengthen their competitiveness. III. Enable students to understand the international trends, and to activate a lifelong learning concept.					
Subject Departmental core competences						
A. Each student should have the advanced professional knowledge of engineering design and analysis.(ratio:55.00)						
 B. Each student should have the ability to integrate interdisciplinary knowledge and information technology.(ratio:20.00) 						
C. Each stud dissertat	C. Each student should have independent thinking and ability of research conducting and dissertation writing.(ratio:10.00)					
D. Each stur and lead	D. Each student should have the ability of effective communication, team work integration and leadership.(ratio:10.00)					
E. Each stur (ratio:5.0	E. Each student should the concept of lifelong learning and international sustainability. (ratio:5.00)					
Subject Schoolwide essential virtues						
1. A global perspective. (ratio:10.00)						
2. Information literacy. (ratio:20.00)						
3. A vision for the future. (ratio:10.00)						
4. Moral integrity. (ratio:5.00)						
5. Independent thinking. (ratio:30.00)						
6. A cheer	6. A cheerful attitude and healthy lifestyle. (ratio:10.00)					

7. A spirit of teamwork and dedication. (ratio:10.00) 8. A sense of aesthetic appreciation. (ratio:5.00)						
Int	Course Introduction					
	The o	correspo	ndences between the c	ourse's instructional objectives and the	cognitive, affective,	
Diff don	erentiate the nains of the c	various o ourse's ii	and objective methods amor nstructional objectives.	ng the cognitive, affective and psychomor	tor	
I. C	Cognitive : Em	nphasis u	pon the study of variou	s kinds of knowledge in the cognition of		
ΠΔ	the ffective · Emp	course's	veracity, conception, pro	ocedures, outcomes, etc.		
	mor	als, attitu	ude, conviction, values, e	etc.	",	
III.P	mar	nipulation	n. n.	course's physical activity and technical		
No.	Teaching Objectives objective methods					
1	Students will be able to learn the fundamentals of structural Cognitive dynamics through understanding the basics of vibration theory. Cognitive				Cognitive	
The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment						
No.	Core Compet	ences	Essential Virtues	Teaching Methods	Assessment	
1	ABCDE		12345678	Lecture, Discussion	Discussion(including classroom and online)	
Course Schedule						
Week	Date		Cou	rse Contents	Note	
1	114/02/17 ~ 114/02/23	~ Introduction/Oscillatory motion				
2	114/02/24 ~ 114/03/02	Introduction/Oscillatory motion				
3	114/03/03~ 114/03/09	Free Vibration - Vibration Model, Equation of Motion				
4	114/03/10~ 114/03/16Free Vibration - Vibration Model, Equation of Motion					

5	114/03/17 ~ 114/03/23	Free Vibration - Viscously Damped Free Vibration, Logarithmic Decrement, Coulomb Damping			
6	114/03/24 ~ 114/03/30	Free Vibration - Viscously Damped Free Vibration, Logarithmic Decrement, Coulomb Damping			
7	114/03/31~ 114/04/06	Harmonically Excited Vibr Forced Harmonic Vibr			
8	114/04/07 ~ 114/04/13	Harmonically Excited Vibr Forced Harmonic Vibr			
9	114/04/14 ~ 114/04/20	Harmonically Excited Vibr Rotating Unbalance			
10	114/04/21~ 114/04/27	Harmonically Excited Vibr Support Motion			
11	114/04/28 ~ 114/05/04	Harmonically Excited Vibr Support Motion			
12	114/05/05 ~ 114/05/11	2DOF System - The Normal Mode Analysis, Initial Conditions			
13	114/05/12 ~ 114/05/18	2DOF System - The Normal Mode Analysis, Initial Conditions			
14	114/05/19~ 114/05/25	Properties of Vibr. Systems - Flexibility Influence Coefs., Reciprocity Theorem, Stiffness Influence Coefs			
15	114/05/26~ 114/06/01	^{/26~} ^{/26~} ^{/01} Properties of Vibr. Systems - Flexibility Influence Coefs., Reciprocity Theorem, Stiffness Influence Coefs			
16	114/06/02 ~ 114/06/08	Multi-DOF system			
17	114/06/09~ 114/06/15	4/06/09~ H/06/15 Multi-DOF system			
18	114/06/16~ 114/06/22	Multi-DOF system			
Key capabilities		Problem solving			
Interdisciplinary					
Distinctive teaching					
Course Content		Logical Thinking			

Requirement						
Textbooks and Teaching Materials	Using teaching materials from other writers:Textbooks Name of teaching materials: Theory of Vibration with Applications, 5-th edition, by Thomson & Dahleh					
References						
Grading Policy	 ◆ Attendance: 10.0 % ◆ Mark of Usual: 40.0 % ◆ Midterm Exam: 20.0 % ◆ Final Exam: 20.0 % ◆ Other 〈Interaction〉: 10.0 % 					
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at <u>http://info.ais.tku.edu.tw/csp</u> or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at <u>http://www.acad.tku.edu.tw/CS/main.php</u> . ※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.					
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